AMENDMENTS TO THE CLAIMS

The following is a complete listing of the claims, which replace all previous versions and listings of the claims.

1. (currently amended) A cooling fan for an electronic device, comprising:

a three-phase DC motor comprising a stator and a rotor comprising a rare earth magnet; and

an impeller comprising a hub to house the three-phase DC motor and a plurality of blades extending from the hub, wherein the impeller has an impeller diameter and each blade has a blade height that is at least 25 % of the impeller diameter.

2. (previously presented) The cooling fan as recited in claim 1, wherein each blade has a chord profile that increases in chord length from a region proximate to the hub to a maximum chord length at a maximum chord length blade height.

3. (previously presented) The cooling fan as recited in claim 2, wherein the maximum chord length blade height is approximately half the blade height.

4. (previously presented) The cooling fan as recited in claim 2, wherein each blade of the impeller has a tip and the chord profile decreases in chord length from the maximum chord length blade height to the tip of the blade.

5. (previously presented) The cooling fan as recited in claim 2, wherein each blade has a tip and a stagger angle of each blade increases from the hub to the tip of the blade.

6. (currently amended) The cooling fan as recited in claim 5, wherein each blade has the stagger angle of ~~approximately 29~~ about 24 degrees to 30 degrees at the hub and the stagger angle of ~~approximately 56~~ about 50 degrees to 56 degrees at the tip.

7. (original) The cooling fan as recited in claim 2, wherein each blade has a tip and a camber angle that decreases from the hub to the tip.

8. (currently amended) The cooling fan as recited in claim 6, wherein each blade has the camber angle of about 26 degrees to [[29]]32 degrees at the hub and about 9 degrees to 15 degrees at the tip.

9. (original) The cooling fan as recited in claim 2, wherein each impeller has solidity of approximately one at the blade height corresponding to the maximum chord length.

10. (original) The cooling fan as recited in claim 1, wherein the impeller has seven blades.

11. (currently amended) An electronic device, comprising:

a first cooling fan, comprising:

a motor; and

an impeller having a hub and a plurality of blades extending from the hub to a tip, wherein each blade has a chord profile that increases to a maximum chord length and decreases to a lesser chord length, a stagger angle that increases from the hub to the tip of the blade, and a camber angle that decreases from the hub to the tip;

wherein:

the stagger angle increases from about 24 degrees to 30 degrees at the hub to about 50 degrees to 56 degrees at the tip; or

the camber angle decreases from about 26 degrees to 32 degrees at the hub to about 9 degrees to 15 degrees at the tip;

or a combination thereof.

12. (original) The electronic device as recited in claim 11, wherein the impeller has a solidity of approximately one at the maximum chord length.

13. (original) The electronic device as recited in claim 11, wherein the maximum chord length is located at approximately forty percent of the full blade height.

14.-15. (canceled)

16. (original) The electronic device as recited in claim 11, wherein the motor is a three-phase DC motor comprising a stator and a rotor comprising a rare earth magnet.

17. (original) The electronic device as recited in claim 16, wherein the rare earth magnet comprises bonded neodymium-iron-boron.

18. (currently amended) The electronic device as recited in claim 11, comprising:

a second cooling fan in series with the first cooling fan, the second cooling fan comprising:

a motor; and

an impeller having a hub and a plurality of blades extending from the hub to a tip, wherein each blade has a chord profile that increases to a maximum chord length and decreases to a lesser chord length, a stagger angle that increases from the hub to the tip of the blade, and a camber angle that decreases from the hub to the tip;

wherein:

the stagger angle increases from about 24 degrees to 30 degrees at the hub to about 50 degrees to 56 degrees at the tip; or

the camber angle decreases from about 26 degrees to 32 degrees at the hub to about 9 degrees to 15 degrees at the tip;

or a combination thereof.

19. (original) The electronic device as recited in claim 11, comprising a bearing assembly operable to rotatably support the impeller, wherein the bearing assembly comprises a plurality of bearings each having an outer diameter at least three times the inner diameter.

20. (currently amended) A method of manufacturing a redundant cooling fan for an electrical device, comprising;

manufacturing each blade of the impeller to have an increasing chord profile from a base region of the blade to a maximum chord length at a specified blade height;

manufacturing each blade with a stagger angle that increases from the base region of the blade to a tip of each blade; and

manufacturing each blade with a camber angle that decreases from the base region of the blade to the tip;

wherein:

the stagger angle increases from about 24 degrees to 30 degrees at the base region of the blade to about 50 degrees to 56 degrees at the tip of the blade; or

the camber angle decreases from about 26 degrees to 32 degrees at the base region of the blade to about 9 degrees to 15 degrees at the tip of the blade; or

a combination thereof.

21. (original) The method as recited in claim 20, comprising manufacturing each blade of the impeller to have a decreasing chord profile from the maximum chord length to a lesser chord length at the blade tip.

22.-23. (canceled)

24. (original) The method as recited in claim 20, comprising manufacturing the impeller with a solidity of approximately one at the maximum chord length.

25. (previously presented) A cooling fan comprising:

a motor;

an impeller coupled to the motor;

a fan housing to house the impeller; and

a pair of finger guards secured to opposite sides of the fan housing, each finger guard being displaced outward relative to the fan housing,

wherein the fan housing comprises a top that extends crosswise over the pair of finger guards and overhangs the flow path outside the pair of finger guards.

26. (original) The cooling fan as recited in claim 25, wherein the motor comprises a three-phase DC motor.

27. (original) The cooling fan as recited in claim 25, wherein the impeller comprises a hub and a plurality of blades extending from the hub to a tip, wherein each blade has a chord profile that increases to a maximum chord length and decreases to a lesser chord length, a stagger angle that increases from the hub to the tip of the blade, and a camber angle that decreases from the hub to the tip.

28 (original) The cooling fan as recited in claim 25, wherein the impeller has a solidity of one at the blade height corresponding to the maximum chord length.

29. (previously presented) The cooling fan as recited in claim 25, wherein the top is generally perpendicular to the opposite sides of the fan housing.

30. (new) The cooling fan as recited in claim 8, wherein each blade has the stagger angle of approximately 29 degrees at the hub and the stagger angle of approximately 56 degrees at the tip, and each blade has the camber angle of approximately 29 degrees at the hub and the camber angle of approximately 12 degrees at the tip.

31. (new) The electronic device as recited in claim 11, wherein the stagger angle increases from approximately 29 degrees at the hub to approximately 56 degrees at the tip, and the camber angle decreases from approximately 29 degrees at the hub to approximately 12 degrees at the tip.

32. (new) The method as recited in claim 20, comprising manufacturing a three-phase DC motor comprising a stator and a rotor comprising a rare earth magnet, and

wherein the stagger angle increases from approximately 29 degrees at the base region of the blade to approximately 56 degrees at the tip of the blade, and the camber angle decreases from approximately 29 degrees at the base region of the blade to approximately 12 degrees at the tip of the blade.

33. (new) The cooling fan as recited in claim 25, wherein the motor is a three-phase DC motor comprising a stator and a rotor comprising a rare earth magnet, and

wherein the impeller comprises a hub and a plurality of blades each extending from the hub to a tip of the respective blade, wherein each blade has a stagger angle which increases from about 24 degrees to 30 degrees at the hub to about 50 degrees to 56 degrees at the tip, or each blade has a camber angle which decreases from about 26 degrees to 32 degrees at the hub to about 9 degrees to 15 degrees at the tip, or a combination thereof.

34. (new) A cooling fan for an electronic device, comprising:

a three-phase DC motor comprising a stator and a rotor comprising a rare earth magnet;

an impeller comprising a hub to house the three-phase DC motor, and a plurality of blades each extending from the hub to a tip of the respective blade, wherein the impeller has an impeller diameter and each blade has a blade height that is at least 25 % of the impeller diameter;

a fan housing to house the impeller; and

a pair of finger guards secured to opposite sides of the fan housing, each finger guard being displaced outward relative to the fan housing, wherein the fan housing comprises a top that extends crosswise over the pair of finger guards and overhangs the flow path outside the pair of finger guards;

wherein each blade has a stagger angle which increases from about 24 degrees to 30 degrees at the hub to about 50 degrees to 56 degrees at the tip, or each blade has a camber angle which decreases from about 26 degrees to 32 degrees at the hub to about 9 degrees to 15 degrees at the tip, or a combination thereof.